

Supplemental Material to:

**Lithium in Drinking Water and Thyroid Function**

Karin Broberg<sup>1\*</sup> Gabriela Concha<sup>2</sup>, Karin Engström<sup>1</sup>, Magnus Lindvall<sup>3</sup>, Margareta Grandér<sup>4</sup>, Marie Vahter<sup>4</sup>

1. Division of Occupational and Environmental Medicine, Lund University, SE-221 85 Lund,  
Sweden

2. Division of Toxicology, Swedish National Food Administration,, SE-751 26 Uppsala, Sweden

3. Department of Child and Youth Psychiatry, Lund University, SE-221 85 Lund

4. Institute of Environmental Medicine, Karolinska Institutet, SE-171 77 Stockholm, Sweden

Supplemental Material, Table 1: Association between a 1- $\mu\text{g/L}$  increase in urine element concentrations and markers of thyroid function and BMI by linear regression analysis<sup>a</sup>.

Outcome variable	Element/ factors	$\beta$ -coefficients	95% C.I	p-value
			Lower; upper	
T4 <sup>b</sup>	Li	$-1.9 \times 10^{-4}$	$-3.1 \times 10^{-4}; -6.8 \times 10^{-5}$	0.002
	B	$-6.8 \times 10^{-5}$	$-1.1 \times 10^{-4}; -2.5 \times 10^{-5}$	0.002
	As	-0.002	-0.004; $4.4 \times 10^{-4}$	0.12
	Cs	-0.001	-0.002; $4.3 \times 10^{-4}$	0.22
	Se	0.05	0.022; 0.078	0.001
	I	$-4.1 \times 10^{-4}$	-0.004; 0.003	0.81
	Age	-0.027	-0.053; -0.002	0.035
	Parity	-0.17	-0.29; -0.062	0.003
	BMI	-0.14	-0.21; -0.064	<0.001
TSH <sup>b</sup>	Li	$9.6 \times 10^{-5}$	$3.3 \times 10^{-5}; 1.6 \times 10^{-4}$	0.003
	B	$1.4 \times 10^{-5}$	$-9.8 \times 10^{-6}; 3.7 \times 10^{-5}$	0.25
	As	$-7.1 \times 10^{-5}$	-0.001; 0.001	0.9
	Cs	$2.3 \times 10^{-4}$	$-3.7 \times 10^{-4}; 0.001$	0.45
	Se	-0.014	-0.029; 0.001	0.069
	I	-0.001	-0.003; 0.001	0.33
	Age	0.001	-0.012; 0.015	0.84
	Parity	-0.029	-0.088; 0.030	0.34
	BMI	0.031	-0.010; 0.071	0.14
BMI <sup>b</sup>	Li	$1.8 \times 10^{-4}$	$-3.9 \times 10^{-5}; 4.0 \times 10^{-4}$	0.11
	B	$7.7 \times 10^{-5}$	$-2.6 \times 10^{-6}; 1.6 \times 10^{-4}$	0.058
	As	$1.8 \times 10^{-4}$	-0.004; 0.004	0.93
	Cs	0.001	-0.001; 0.003	0.41
	Se	-0.023	-0.075; 0.029	0.39
	I	0.004	-0.002; 0.010	0.16
	Age	0.14	0.098; 0.18	<0.001
	Parity	0.53	0.34; 0.72	<0.001
	T4	-0.47	-0.72; -0.22	<0.001
	TSH	0.37	-0.12; 0.86	0.14
T4 <sup>c</sup>	Li	$-1.7 \times 10^{-4}$	$-3.2 \times 10^{-4}; -1.5 \times 10^{-5}$	0.032
	As	-0.001	-0.004; 0.002	0.53
	Cs	0.001	-0.001; 0.002	0.36
	Se	0.041	0.012; 0.071	0.006
	Age	0.010	-0.023; 0.043	0.55
	Parity	-0.11	-0.25; -0.030	0.12
	BMI	-0.010	-0.19; -0.021	0.015
TSH <sup>c</sup>	Li	$8.9 \times 10^{-5}$	$2.4 \times 10^{-5}; 1.5 \times 10^{-4}$	0.007
	Se	-0.012	-0.027; 0.003	0.12
	BMI	0.023	-0.017; 0.063	0.26
BMI <sup>c</sup>	Li	$1.4 \times 10^{-4}$	$-5.9 \times 10^{-5}; 3.5 \times 10^{-4}$	0.16
	I	0.005	-0.001; 0.010	0.081
	Age	0.10	0.049; 0.16	0.001
	Parity	0.26	-0.026; 0.49	0.029

<sup>a</sup>Abbreviations: Li: lithium, B: boron, As: arsenic, Se: selenium, Cs: cesium, I: iodine, TSH: thyroid-stimulating hormone, mIU/L: milli-international units per liter, T4: free thyroxine.

<sup>b</sup>Univariate analysis.

<sup>c</sup> Multivariate analysis: variables were included in the analysis provided a p-value<0.25 in the univariate analysis, apart from boron, which was highly correlated to lithium ( $r_s=0.85$ ;  $p=0.001$ ).